

FE Series



The Passionate Pursuit of Perfection

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FE Series

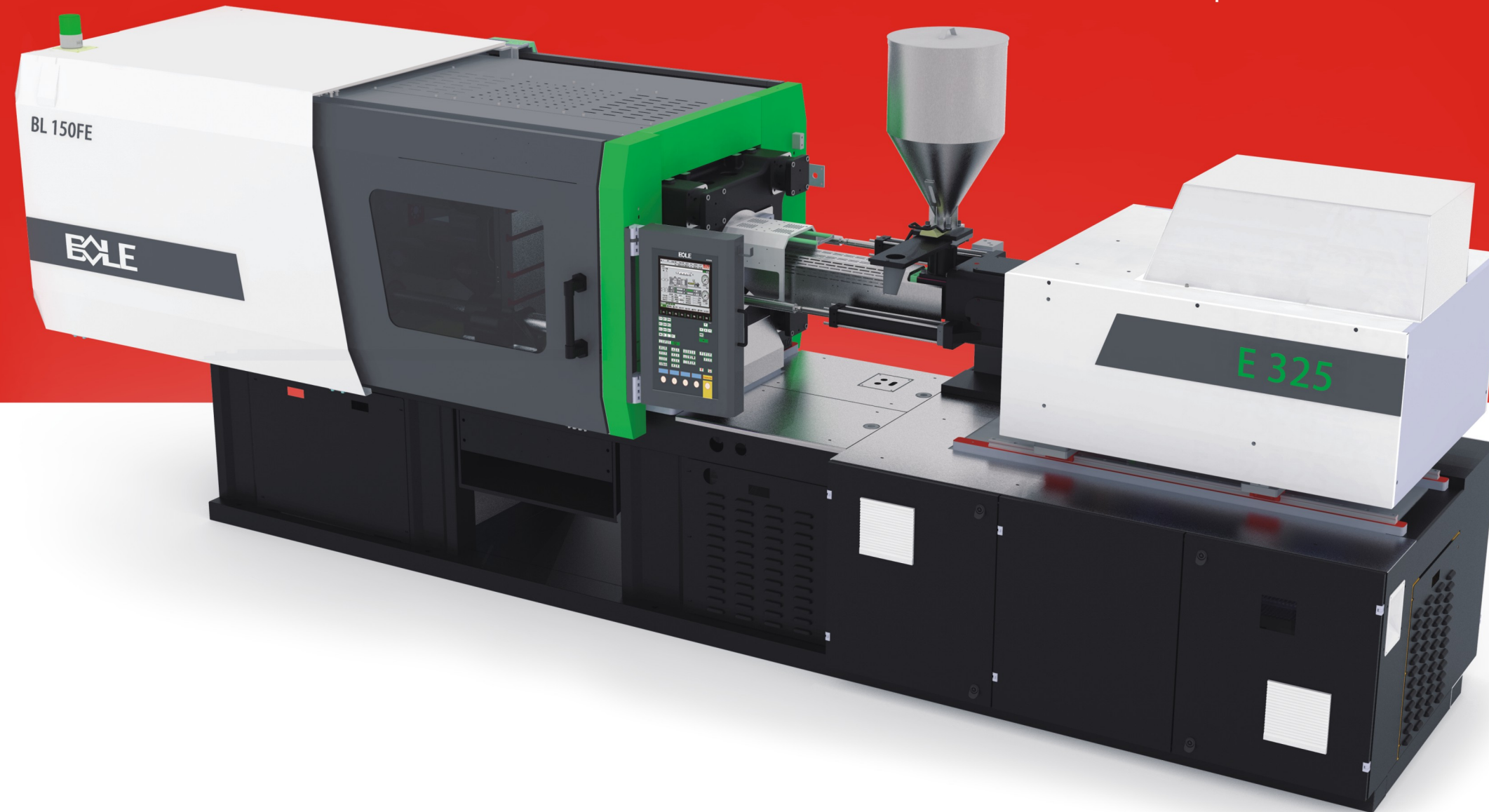
Electrical Injection Moulding Machine



Injection Moulding Machine

Advantage Of Full Electrical Injection Moulding Machine

Compared to the traditional hydraulic injection moulding machine



Energy Saving

Efficient energy conversion,
Reduce power consumption.
No need water for hydraulic
oil cooling.

Efficient

Synchronous machine
movement is possible to
achieve a short cycle time

Precise

Up to 0.01 mm high position
control accuracy, ensure
product quality

Clean

No pressure hydraulic oil, keep
a clean production environment

High Speed

High-speed & smart movement
control for mold and injection,
fulfill different application

Quiet

Low noise level, create
comfortable environment

BOLE Electrical Injection Moulding Machine

Precise

High-speed

Common

Reliable



Fast & close loop control system excellent repeatability performance



Patented central clamping toggle system create uniform clamping force. reduces platen deflection



Platen drive by servo motor and ball screw.



German design of plasticizing system increase efficiency of plasticizing over 20%

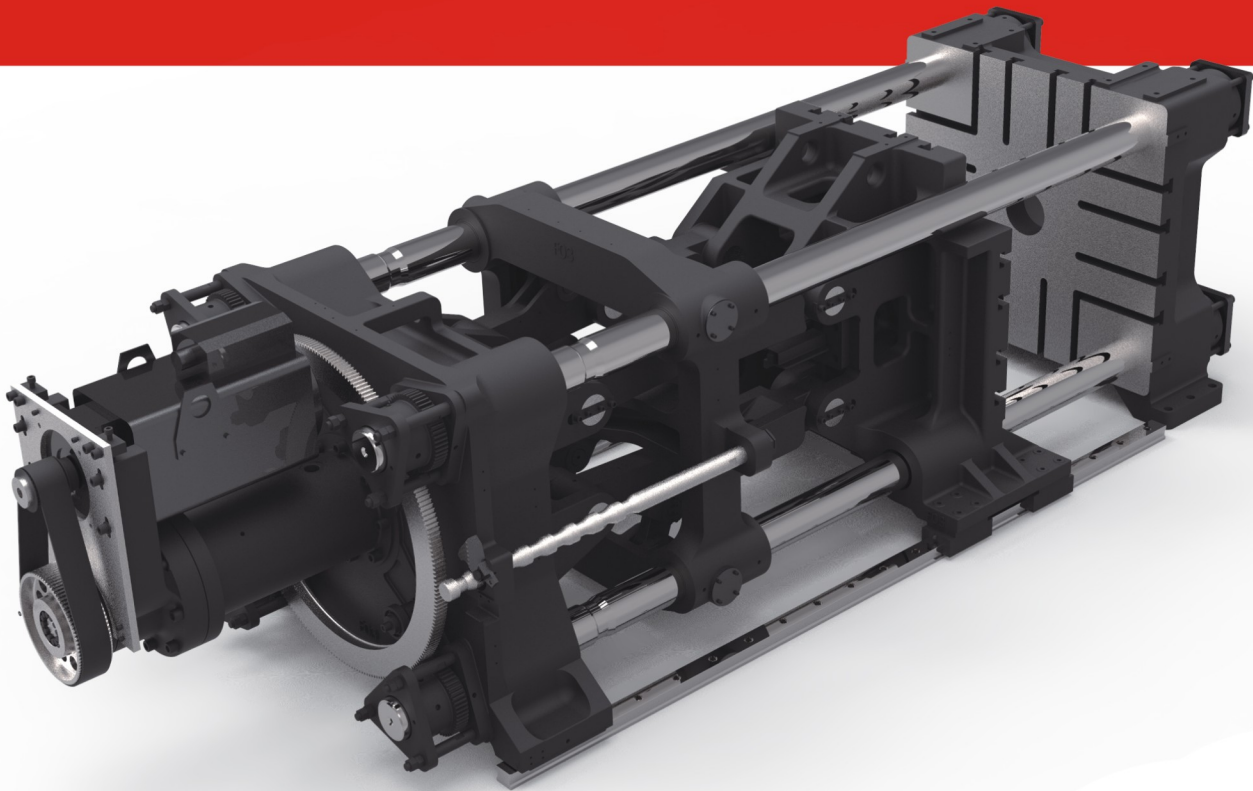


Patented encapsulated ball screw



E-version Of Central Clamping Toggle System

Central Locking Toggle, Inventional Patent In CHINA
(Patent No.: ZL2011 10250342.5)

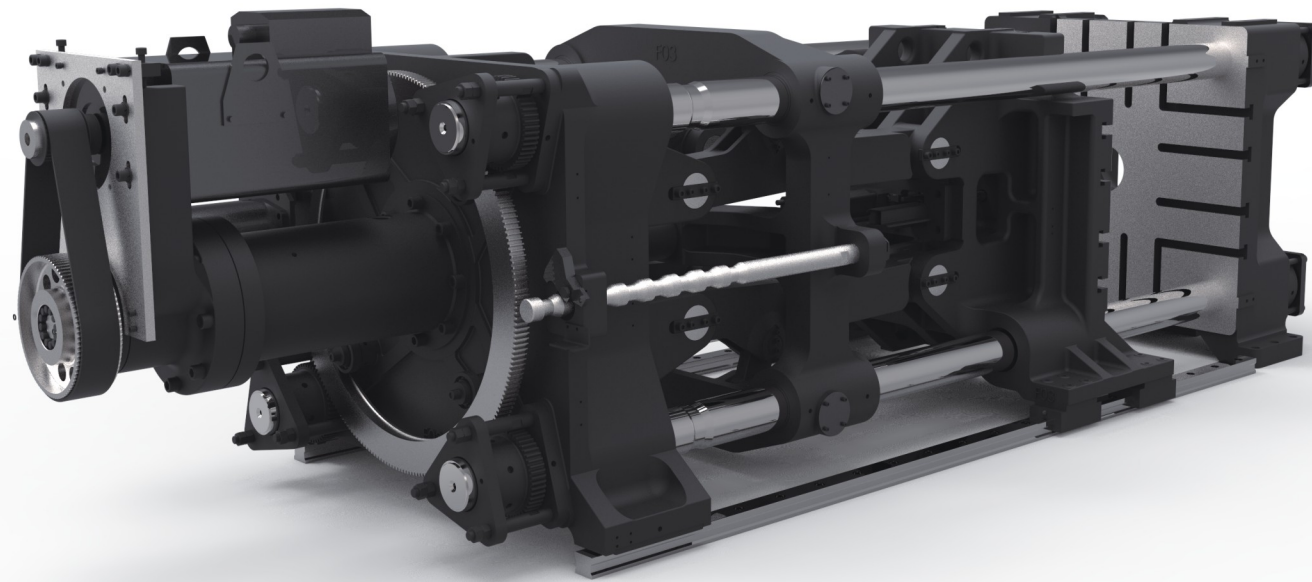


- **Saving**
 - Save material
 - Save electricity
 - Save nr. Of machine
 - Save maintenance
- **Precise**
 - Precise position
 - Precise speed
 - Reliable mold protection
 - Precise parallelism
- **Large**
 - Large space between tie-bars
 - Large open stroke
 - **Clean**
 - The product area is free of oil

Toggle System Comparison

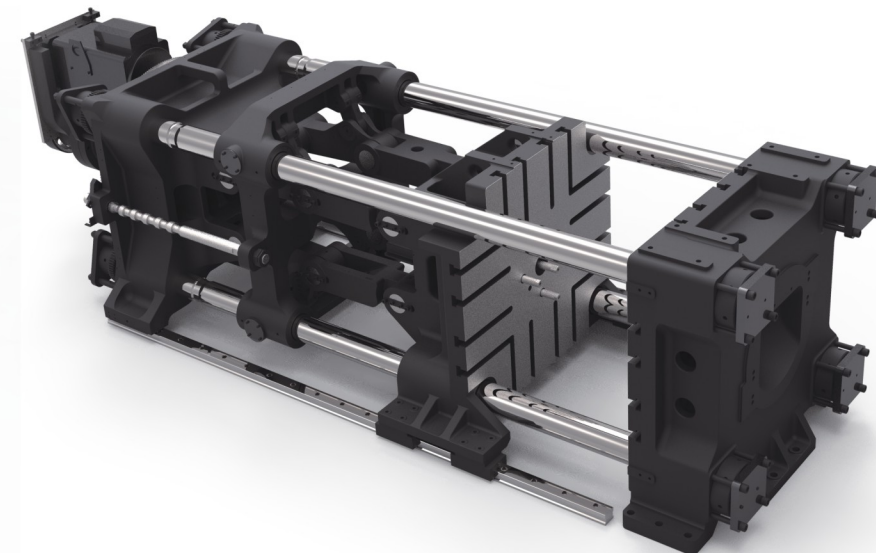
No Platen deformation No Mold deformation Clamping force transmit	Platen deformation Mold deformation Clamping force transmit
BOLE	Others
BOLE centre clamping structure	Tradition Toggle system
• 100% Clamping force efficiency • 2-5% Material saving • Reduces mold wear, platen deflection • Less possibility of flash, save flash trim work	• 80-85% Clamping force efficiency • Moving platen with obvious deformation, cause flashes, waste of material and labor of trim the flashes.

Central Clamping Toggle System Driven By Servo Motor & Ball Screw



- Precise control for mold movement, repeatability up to 0.01 mm, fit for IML or automation.
- Flexible control curve, fast and smooth mold movement
- Sensitive mold pretension function

Platen Supported By Linear Guide



- High platen parallelism
- No lubrication on movable platen
- Keep clean around Part-drop-area

Patented Encapsulated Ball Screw Structure



Tradition



Traditional design of ball screw structure is open to the air, dust will stick on the ball screw surface



Friction will increase ball screw temperature



Lubrication condition become worse

Breakthrough



Encapsulated ballscrew, reduce the requirement of workshop environment

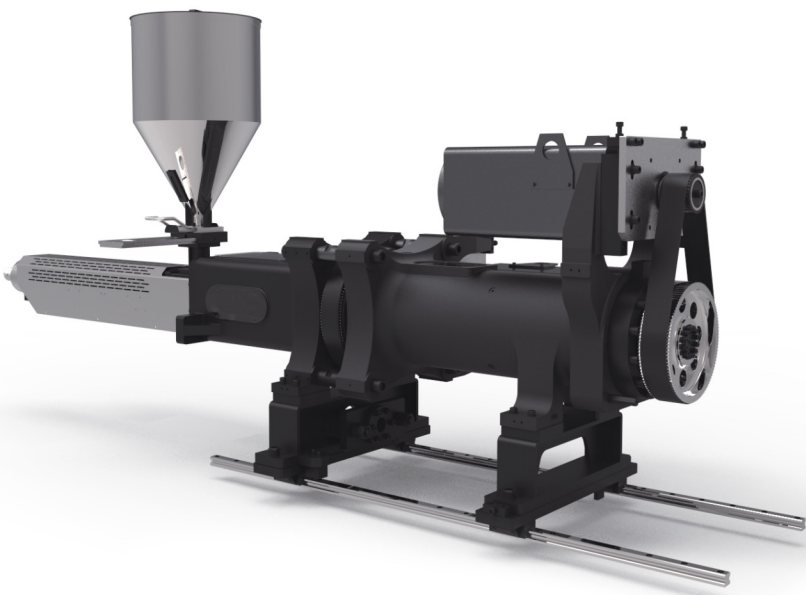


The heat created by friction is taken by oil bath, Ballscrew is well kept cool.

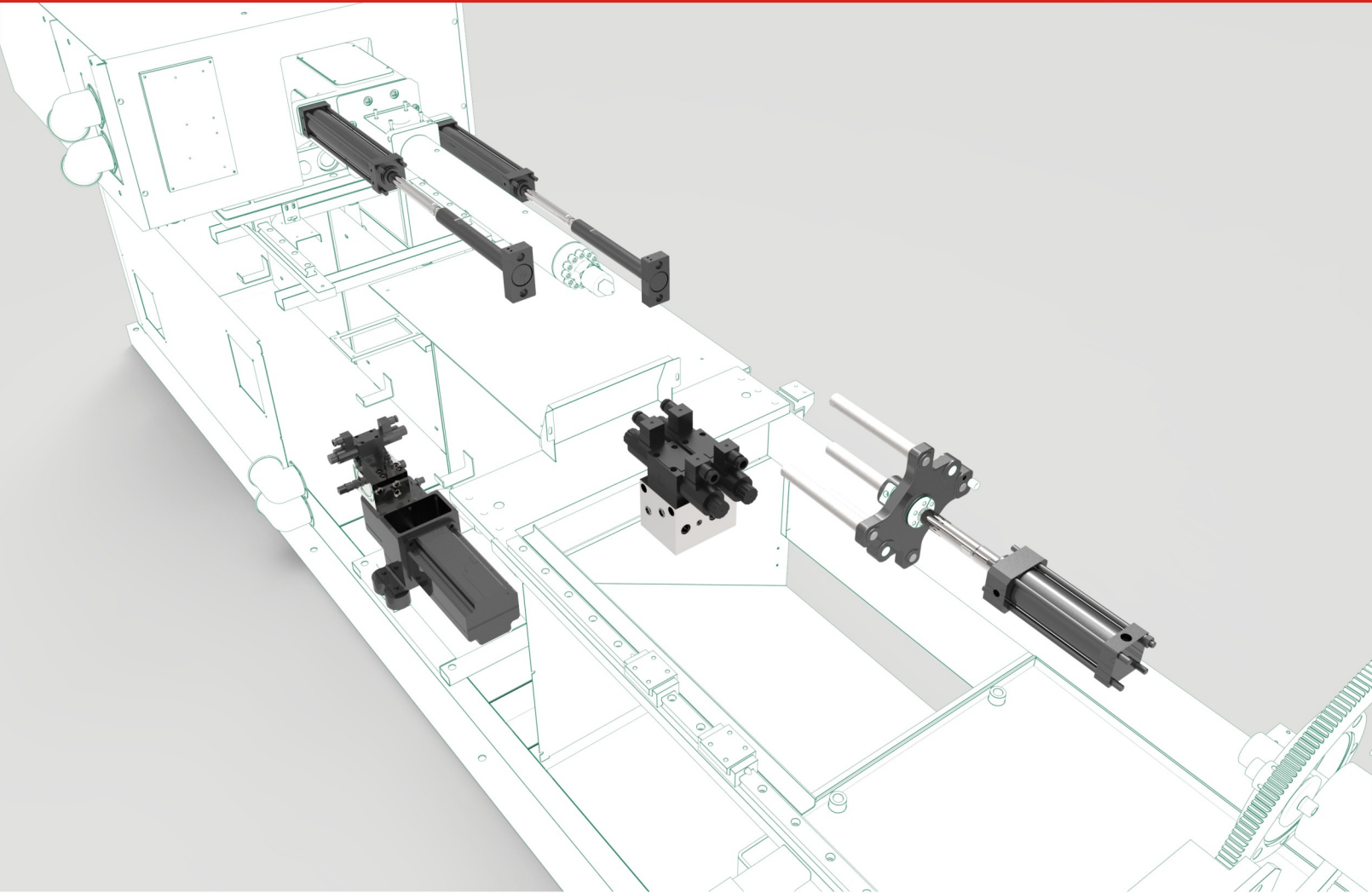


Lubrication is kept on the friction surface by oil bath

- Take away friction heat rapidly, reduce ball screw temperature and abrasion
- Obstruct dust pollution,request of using environment is low
- Expensive and imported ball screw lubrication grease is unnecessary
- More easy for maintenance,no need to clean fatlute



Control System



- Integrated with the accuracy control software of Mold Opening Positioning, the mold open-close positioning accuracy of injection moulding machine can reach $\pm 0.5\text{mm}$.
- Integrated with the patented control software for Intelligent Injection Process Compensation, the repeated accuracy of final product can be less than 0.3%.
- Equipped with I/O safety advice against short circuit
- Main electric component use brand Schneider Eaton, ABB, Fuji, which ensure long service life.
- Independent Strong and weak wire layout, high anti interference, Independent electric control box structure, convenient for installation, examination and repair.

Embedded Servo Hydraulic Pump Station

- Symmetrical cylinder arrangement for injection carrier, offer reliable and balance nozzle contact
- Servo drive hydraulic pump station, power saving and effety
- Hydraulic ejector and core puller flexiable to meet different mold requirement
- Option for Full-electrical version: without hydraulic pump station and corepull, electrical drive for carrier movement and ejector.



German Designed Plasticizing System

- Excellent plasticizing efficiency
- Options for different application



Various Application

- Adopt low inertia&high response structure for injection, quiet conveyor, meet various condition
- Higher injection precision repeatability, stabilize in product
- Meet various condition, thin wall packing and wall thick lens can be applied
- Injection position repeatability ± 0.01 mm

Technical Data

Clamping Unit		BLI10FE								BLI50FE											
Clamping Force	kN	1100								1400											
Tie-bar Distance (H×V)	mm	460X410								510X460											
Opening Stroke Max	mm	400								450											
Mold Height Min	mm	150								180											
Mold Height Max	mm	450								500											
Max Daylight	mm	850								950											
Ejector Stroke	mm	100								120											
Ejector Force	kN	30								35											
Injection Unit																					
Standard Injection Unit		E225				E325				E225				E325				E400			
Screw Type		AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C
Screw Diameter	mm	25	28	32	36	28	32	36	40	25	28	32	36	28	32	36	40	32	36	40	45
Screw L/D Ratio		23				23				23				23				23			
Screw Stroke	mm	140				160				140				160				180			
Injection Capacity	cm³	69	86	113	143	99	129	163	201	69	86	113	143	99	129	163	201	145	183	226	286
Shot Weight PS	g	63	78	102	130	90	117	148	183	63	78	102	130	90	117	148	183	132	167	206	261
Injection Pressure	MPa	328	261	200	158	331	253	200	162	328	261	200	158	331	253	200	162	281	222	180	142
Holding Pressure	MPa	262	209	160	126	264	203	160	130	262	209	160	126	264	203	160	130	250	198	160	126
Screw Speed	rpm	400				350				400				350				350			
Standard Injection Speed		E225-S				E325-S				E225-S				E325-S				E400-S			
Injection Piston Speed	mm/s	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
Injection Rate	cm³/s	81	102	133	168	102	133	168	207	81	102	133	168	102	133	168	207	133	168	207	262
		E225-H				E325-H				E225-H				E325-H				E400-H			
Injection Piston Speed	mm/s	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330	330
Injection Rate	cm³/s	162	203	265	336	203	265	336	415	162	203	265	336	203	265	336	415	265	336	415	525
Other																					
Total power	KW	52.6								59.6											
Machine dimensions(LXWXH)	m	5.79X1.39X1.89								5.9X1.47X1.9											
Net weight(appro.)	ton	4.2								5.7											

Technical Data

Clamping Unit		BLI 80FE												BL230FE											
Clamping Force	kN	1800												2300											
Tie-bar Distance (H×V)	mm	560X510												660X610											
Opening Stroke Max	mm	500												600											
Mold Height Min	mm	200												200											
Mold Height Max	mm	550												650											
Max Daylight	mm	1050												1250											
Ejector Stroke	mm	130												130											
Ejector Force	kN	45												45											
Injection Unit																									
Standard Injection Unit		E325				E400				E570				E400				E570				E800			
Screw Type		AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C
Screw Diameter	mm	28	32	36	40	32	36	40	45	36	40	45	50	32	36	40	45	36	40	45	50	36	40	45	50
Screw L/D Ratio		23				23				23				23				23				23			
Screw Stroke	mm	160				180				200				180				200				200			
Injection Capacity	cm³	99	129	163	201	145	183	226	286	204	251	318	393	145	183	226	286	204	251	318	393	204	251	318	393
Shot Weight PS	g	90	117	148	183	132	167	206	261	185	229	289	357	132	167	206	261	185	229	289	357	185	229	289	357
Injection Pressure	MPa	331	253	200	162	281	222	180	142	281	228	180	146	281	222	180	142	281	228	180	146	281	222	180	149
Holding Pressure	MPa	264	203	160	130	250	198	160	126	250	203	160	130	250	198	160	126	250	203	160	130	250	198	160	132
Screw Speed	rpm	350				350				300				350				300				300			
Standard Injection Speed		E325-S				E400-S				E570-S				E400-S				E570-S				E800-S			
Injection Piston Speed	mm/s	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165
Injection Rate	cm³/s	102	133	168	207	133	168	207	262	168	207	262	324	133	168	207	262	168	207	262	324	207	262	324	392
		E325-H				E400-H				E570-H				E400-H				E570-H				E800-H			
Injection Piston Speed	mm/s	330	330	330	330	330	330	330	330	250	250	250	250	330	330	330	330	250	250	250	250	250	250	250	250
Injection Rate	cm³/s	203	265	336	415	265	336	415	525	254	314	398	491	265	336	415	525	254	314	398	491	314	398	491	594
Other																									
Total power	KW	60.5												70.2											
Machine dimensions(LXWXH)	m	6.1X1.66X2.12												6.75X1.8X2.25											
Net weight(appro.)	ton	6.9												8.5											

Technical Data

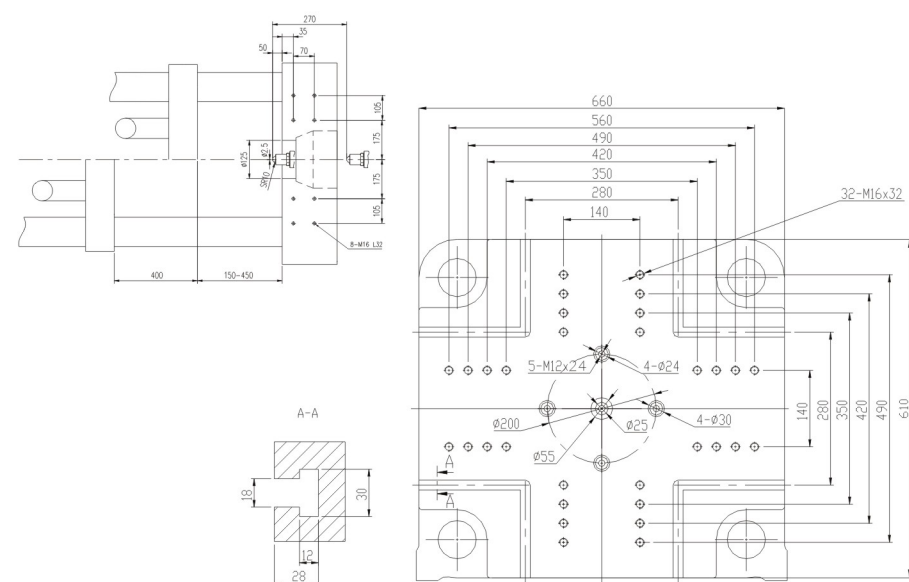
Clamping Unit		BL280FE												BL350FE									
Clamping Force	kN	2800												3500									
Tie-bar Distance (H×V)	mm	710X660												810X760									
Opening Stroke Max	mm	650												750									
Mold Height Min	mm	220												240									
Mold Height Max	mm	700												800									
Max Daylight	mm	1350												1550									
Ejector Stroke	mm	150												150									
Ejector Force	kN	50												60									
Injection Unit																							
Standard Injection Unit		E570				E800				E1100				E800				E1100					
Screw Type		AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C	AA	A	B	C		
Screw Diameter	mm	36	40	45	50	40	45	50	55	45	50	55	60	40	45	50	55	45	50	55	60		
Screw L/D Ratio		23				23				23				23				23					
Screw Stroke	mm	200				230				260				230				260					
Injection Capacity	cm³	204	251	318	393	289	366	452	546	414	511	618	735	289	366	452	546	414	511	618	735		
Shot Weight PS	g	185	229	289	357	263	333	411	497	376	465	562	669	263	333	411	497	376	465	562	669		
Injection Pressure	MPa	281	228	180	146	281	222	180	149	269	218	180	151	281	222	180	149	269	218	180	151		
Holding Pressure	MPa	250	203	160	130	250	198	160	132	239	194	160	134	250	198	160	132	239	194	160	134		
Screw Speed	rpm	300				300				300				300				300					
Standard Injection Speed		E570-S				E800-S				E1100-S				E800-S				E1100-S					
Injection Piston Speed	mm/s	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165	165		
Injection Rate	cm³/s	168	207	262	324	207	262	324	392	262	324	392	467	207	262	324	392	262	324	392	467		
		E570-H				E800-H				E1100-H				E800-H				E1100-H					
Injection Piston Speed	mm/s	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250	250		
Injection Rate	cm³/s	254	314	398	491	314	398	491	594	398	491	594	707	314	398	491	594	398	491	594	707		
Other																							
Total power	KW	110.3												156									
Machine dimensions(LXWXH)	m	7.3X2X2.3												8X2.2X2.6									
Net weight(appro.)	ton	11.5												15									

.19. Due to the continuous product improvement, we reserve the right to adjust the individual parameters, without notice.

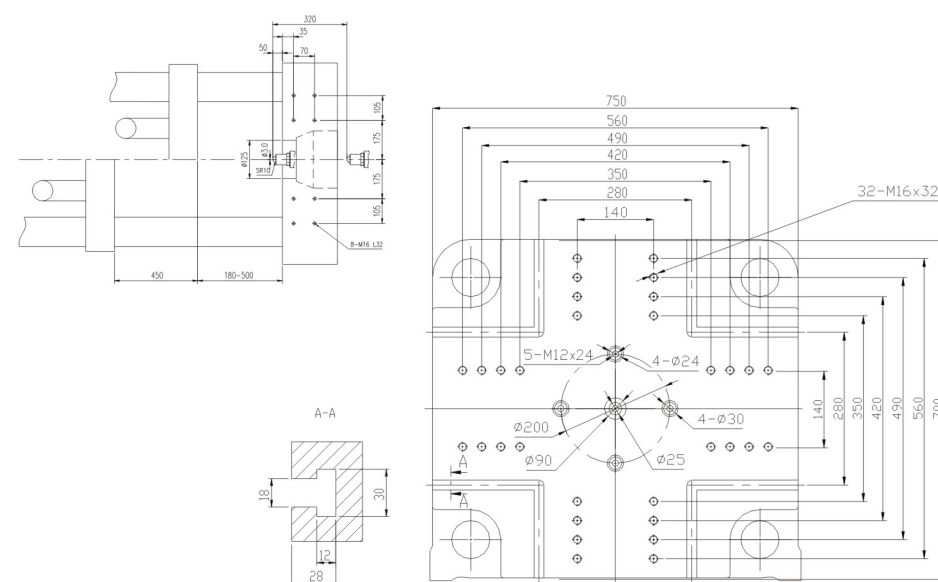
Due to the continuous product improvement, we reserve the right to adjust the individual parameters, without notice.

.20.

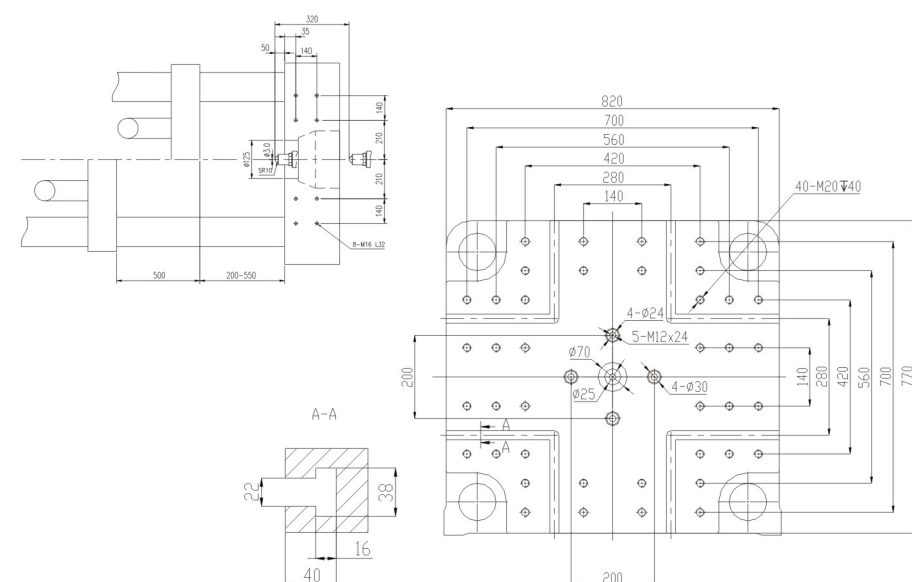
Platen Size



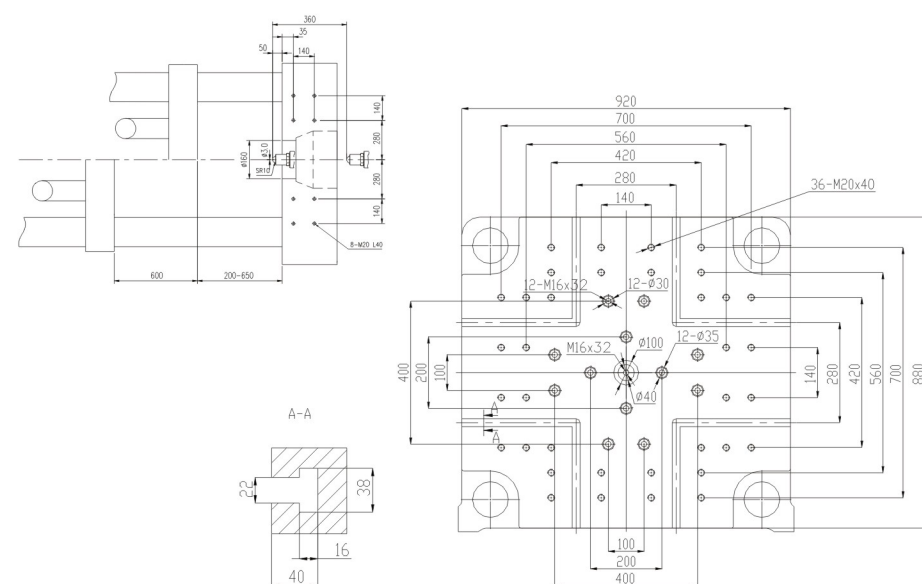
BL110FE



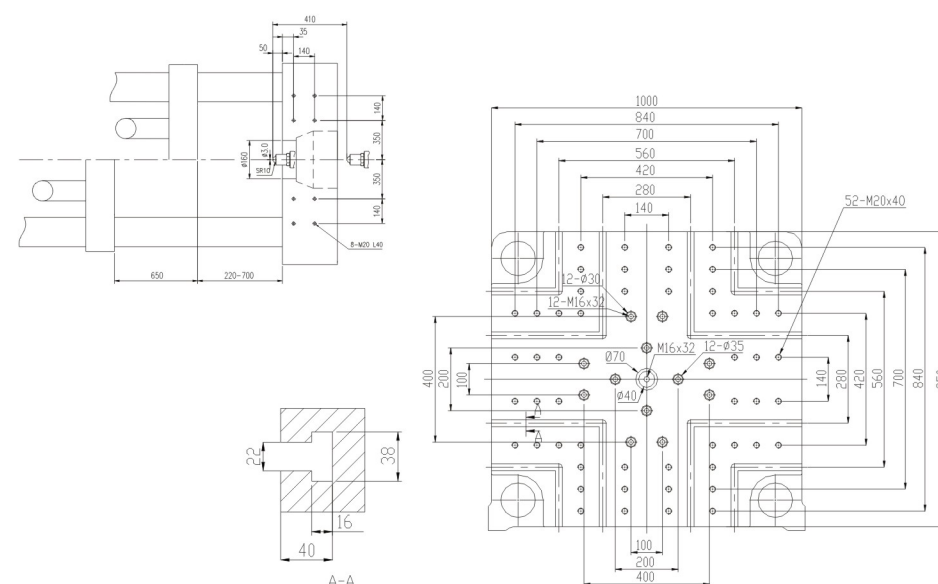
BL150FE



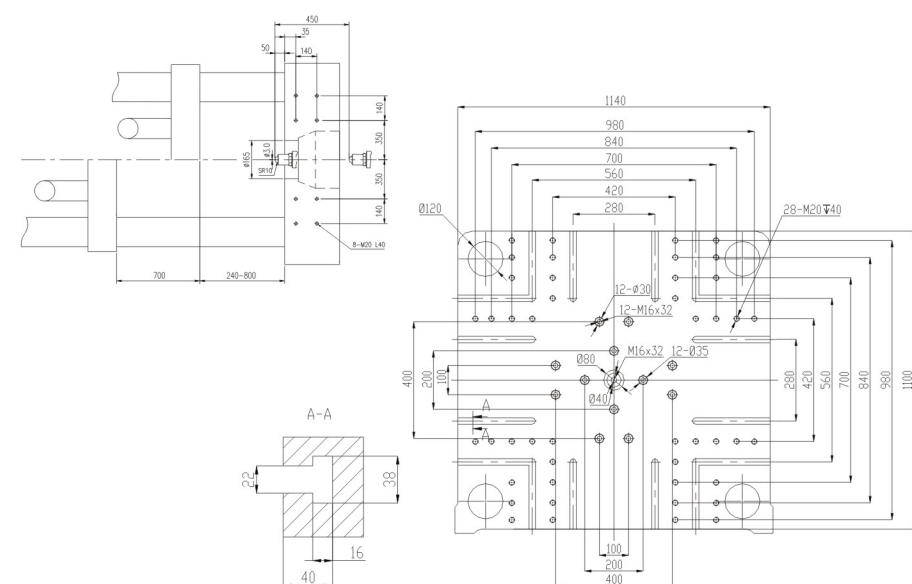
BL180FE



BL230FE



BL280FE



BL350FE